

REMARKS

The present invention is a method for determining reflection times of seismic events picked on 3D records of seismic data corresponding to signals picked up by seismic receivers distributed along an acquisition line in response to an emission in a subsoil of waves from point sources with the seismic data having been previously converted to cylindrical wave data and interpreted.

Claims 1-13 stand rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement.

As the Examiner is aware, the sufficiency of a disclosure of an application is considered from the perspective of a person of ordinary skill in the art. It is submitted that the explanation of the invention from pages 11-18 of the substitute specification informs a person of ordinary skill in the art that the applicant was in possession of the claimed invention. It is submitted that a requirement for a figure is not necessary when viewing the disclosure on the aforementioned portions of the specification from the perspective of a person of ordinary skill in the art. With respect to the cylindrical waves, reflections, elements such as receivers, vectors, vector equations and geometric parameters of a Cartesian coordinate system such as slope and abscissa to which the Examiner refers, it is submitted that a person of ordinary skill in the art understands this subject matter without an illustration when the totality of the disclosure on pages 11-18 is considered.

With respect to a picked event not being understandable, it is submitted that a person of ordinary skill understands that the reference to the base of a seismic reflection is a signal emitted in the subsoil which is modeled as a ray. The rays are reflected by an interface and are individually called a "picked event" by a geophysicist. If the Examiner persists in the requirement, the applicant will provide

evidence that such terminology such as “picked event” is understood by persons of ordinary skill in the art.

Page 11, lines 13-17 teach at “the result of such a demigration is the time of arrival, on the records associated with a cylindrical wave considered (characterized by the co-ordinate along the Y-axis of the acquisition line and by the value of parameter (p_x) defining the slope of the cylindrical wave), of the reflection corresponding to the picked event as stated in the substitute specification. A person of ordinary skill in the art understands that multiple sources are used in seismic data and for each source there is one time of arrival recorded by one receiver. Moreover, page 12, lines 6-19 refer to multiple rays. Moreover, page 11, lines 16-21 refer to the arrival time on the abscissa (X_R) of the receiver considered and demigration being naturally conducted by seeking for the given receiver position the abscissa the point source or of the source points S on a line considered such that the ray starting from the receiver and reflecting on the picked event merges at S with a slowness vector and the velocity model is identical to the model used for migration. Therefore, the subsequent reference pertaining to rays would be understood by a person of ordinary skill in the art and is known by persons of ordinary in the art as a line from each source. Accordingly, claims 14 and 15, respectively, refer to rays and ray which are supported by the specification.

Claims 1-13 stand rejected under 35 USC §112, second paragraph, as being incomplete. The Examiner concludes that “the steps describing the coordinate system which contain the recited element such as the ‘source point’, ‘abscissa’, ‘slowness vector’ are not recited in the claim. It is submitted that such requirements are not necessary to define the invention with 35 USC §112 requiring the applicant to

particularly point out distinctly claimed subject matter which the applicant regards as his invention.

Accordingly, it is submitted that newly submitted claims 14 and 15 which correspond to claims 1 and 2 do not omit essential steps.

Claims 1-13 stand rejected under 35 USC §102 as being anticipated by U.S. Patent 5,737,220 (Miller); and further claims 1-15 (it is understood that the reference 15 should be replaced by 13) stand rejected under 35 USC §102 as being anticipated by U.S. Patent 5,852,588 (De Hoop).

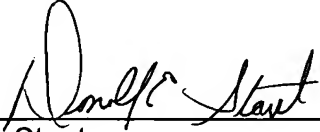
The rejections of claims 1-13 as being anticipated by Miller and De Hoop are traversed in that it is impossible for the applicant to respond to the Examiner's statement "to the extent that claims are understood by considering the recited objectives and the elements" since it is submitted that such a rejection does not place applicant on notice as to precisely what the Examiner considers either Miller or De Hoop to disclose. Accordingly, it is requested if the Examiner persists in the stated grounds of rejection that he particularize what he considers to be limitations in the claims that are understood by the Examiner since for an anticipation rejection to be proper every limitation in the claim must be considered. It is apparent that the Examiner is disregarding limitations in the claims and has not identified the limitations that he considers to be recited in the claims making a response to a rejection to anticipation impossible.

In view of the foregoing amendments and remarks, it is submitted that the application is in condition for allowance. Early allowance thereof is respectfully requested.

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of

payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 612.40916X00).

Respectfully submitted,
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June 16, 2005